

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>INT1112WMC</b>	<b>FOR FURTHER ACTION</b> <small>see Form PCT/ISA/220 as well as, where applicable, Item 5 below.</small>	
International application No. <b>PCT/ZA2004/000008</b>	International filing date (day/month/year) <b>23/01/2004</b>	(Earliest) Priority Date (day/month/year) <b>24/01/2003</b>
Applicant <b>ALMAR PACKAGING SOLUTIONS (PTY) LIMITED</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the language, the International search was carried out on the basis of the International application in the language in which it was filed, unless otherwise indicated under this item.

The International search was carried out on the basis of a translation of the International application furnished to this Authority (Rule 23.1(b)).

b.  With regard to any nucleotide and/or amino acid sequence disclosed in the International application, see Box No. I.

2.  Certain claims were found unsearchable (See Box II).

3.  Unity of invention is lacking (see Box III).

4. With regard to the title,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the abstract,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this International search report, submit comments to this Authority.

6. With regards to the drawings,

a. the figure of the drawings to be published with the abstract is Figure No. 6

as suggested by the applicant.

as selected by this Authority, because the applicant failed to suggest a figure.

as selected by this Authority, because this figure better characterizes the invention.

b.  none of the figures is to be published with the abstract.

**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/ZA2004/000008

**Box No. IV Text of the abstract (Continuation of item 5 of the first sheet)**

A rotational moulding machine including three mould manipulator arrangements (10) and a rotatable carrousel (44) on which the manipulators (10) are mounted for indexed rotation between heating (62), cooling (64) and mould loading stations (66). The manipulators (10) each include a rectangular frame (18), stub axles (28,30) on the frame (18) which are rotatable in supports on the carrousel on a first axis (A), mould locating means (42) in the frame (18) which is rotatable on a second axis (B) normal to the first and means (20,22) for manipulating a mould (40) in the frame (18) on both axes. The machine includes a crane beam (58) over the carrousel which overlies the heating and cooling station positions on the carrousel, a heating chamber, a wall enclosure, and crane means for lowering the heating chamber (68) and wall enclosure over manipulators on the carrousel at the heating and cooling stations and for lifting them clear of the manipulators to enable them to be indexed to the next station.

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 B29C41/06 B29C33/06

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 B29C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 96/38281 A (AUTOMATED PLASTIC SYSTEMS PTY ; SIMS DOUGLAS ARTHUR (AU)) 5 December 1996 (1996-12-05) figure 7 page 15, line 13 - line 16	1
Y	US 5 358 682 A (ROGERSON L KEITH INT ROGERS) 25 October 1994 (1994-10-25) figures 1,3	2,8,12
Y	US 4 292 015 A (HRITZ MICHAEL) 29 September 1981 (1981-09-29) figure 9	8
A	US 3 677 670 A (MORI HISAYUKI ET AL) 18 July 1972 (1972-07-18) figures 4,5	8
		-/-

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

## \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the International filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the International filing date but later than the priority date claimed

- \*T\* later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

- \*Z\* document member of the same patent family

Date of the actual completion of the International search

Date of mailing of the International search report

2 July 2004

15/07/2004

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	BE 729 003 A (ATELIERS DE CONSTRUCTIONS ELECTRIQUES DE CHARLEROI) 27 August 1969 (1969-08-27) figure 1	2
Y	US 4 050 875 A (KATZMAN ALLISON W ET AL) 27 September 1977 (1977-09-27) figures 1,2	2
Y	US 4 690 626 A (KRZEPINSKI HORST) 1 September 1987 (1987-09-01) figure 4	12

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/ZA2004/000008

Patent document cited in search report	Publication date		Patent family member(s)		Publication date
WO 9638281	A 05-12-1996	AU WO	5755696 A 9638281 A1	18-12-1996 05-12-1996	
US 5358682	A 25-10-1994		NONE		
US 4292015	A 29-09-1981		NONE		
US 3677670	A 18-07-1972	DE GB	2022324 A1 1300167 A	19-05-1971 20-12-1972	
BE 729003	A 27-08-1969		NONE		
US 4050875	A 27-09-1977	DE FR GB	2820484 A1 2425309 A1 1591602 A	15-11-1979 07-12-1979 24-06-1981	
US 4690626	A 01-09-1987	DE EP	8429732 U1 0177906 A2	28-02-1985 16-04-1986	